

TUROVSKIY, B.M.; LAYNER, L.V.

Detection of dislocations in silicon single crystals with low density dislocations. Zav.lab. 29 no.11:1331-1333 '63.

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut  
redkometallicheskoy promyshlennosti. (MIRA 16:12)

TUROVSKIY, B.M.

Determining the shape of the crystallization front in  
silicon crystals by the selective etching method. Fiz.  
tver. tela 5 no.6:1750-1753 Je '63. (MIRA 16:7)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy  
institut redkometallicheskoy promyshlennosti, Moskva.

TUROVSKIY, B.M.

Determining the radial temperature gradients on the crystallization front of blocks grown by Czochralsky's method. Kristalografija 8 no.5:778-782 S-0 '63. (MIRA 16:10)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut redkometallicheskoy promyshlennosti.

TUROVSKIY, B.M.; LAYNER, L.V.

Formation and structure of 90° twins in silicon single crystals  
grown by Czochralsky's method. Kristallografiia 9 no.1:92-97  
Ja-F '64. (MIRA 17:3)

1. Nauchno-issledovatel'skiy i proyektnyy institut redkometallicheskoy  
promyshlennosti.

TUROVSKIY, B.M.

Methods for evaluating the diffusion coefficients of impurities  
in molten semiconductor silicon. Zhur.fiz.khim. 36 no.8:1815-  
1818 Ag '62. (MIRA 15:8)

1. Institut redkoy metallicheskoy promyshlennosti.  
(Silicon alloys) (Semiconductors)

TUROVSKIY, B.M.; LYUBIMOV, A.P.

Viscosity and electric resistance of liquid alloys of the system  
Fe - C. Izv. vys. ucheb. zav., chern. met. no.2:15-20 '60.  
(IzRA 15:5)

1. Moskovskiy institut stali.  
(Iron alloys)  
(Liquid metals--electric properties)  
(Viscosimetry)

24.7500

40047  
S/076/62/036/008/009/011  
B101/B144

AUTHOR: Turovskiy, B. M.

TITLE: Methods of estimating the diffusion coefficients of impurities in molten semiconductor silicon

PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 8, 1962, 1815 - 1818

TEXT: Equations are derived to facilitate the calculation of active admixtures for growing silicon crystals according to Czochralski.

(1) Proceeding from an equation of J. A. Burton et al. (J. Chem. Phys., 21, 1953) for the effective distribution coefficient  $K_{eff}$ , the diffusion coefficient of the impurity is calculated allowing for a viscosity of

$2.7 \cdot 10^{-3} \text{ cm}^2/\text{sec}$  in silicon at melting temperature:

$D = 0.153 f^{3/2} (\log [K_{eff}(1-K)/K(1 - K_{eff})])^{-3/2} \omega^{-3/4}$ ; where  $K$  = coefficient of the equilibrium distribution;  $f$  = pulling rate of the crystal ( $\text{cm/sec}$ ),  $\omega$  = angular velocity of rotation of the crystal ( $\text{sec}^{-1}$ ). The calculation of  $D$  ( $\text{cm}^2/\text{sec}$ ) for Al, P, As gave:  $2.28 \cdot 10^{-5}$ ;  $2.31 \cdot 10^{-4}$ ; and  $2.36 \cdot 10^{-4}$ ,  
Card 1/2

S/076/62/036/008/009/011

B101/B144

✓

## Methods of estimating...

respectively. (2) Another method depends on measuring micrometrically the width of the dark etching stripes on the crystal cross section.  $D = 0.5hH_w$ , where  $h$  = width of the dark etching stripe,  $H = h + h_1$  ( $h_1$  = width of the bright stripe). From this equation:  $D_{Al} = 3.56 \cdot 10^{-5}$ ,  $D_p = 1.17 \cdot 10^{-4}$ . These values permit a simple calculation of  $K_{eff}$  under any conditions of growth and the estimation of  $D$  also for other semiconductors and pure metals. There are 1 figure and 2 tables.

ASSOCIATION: Institut redkoy metallicheskoy promyshlennosti (Institute of the Rare Metals Industry)

SUBMITTED: January 4, 1962

Card 2/2

TUROVSKIY, B.M.; MIL'VIDSKIY, M.G.

Simulator for stirring the melt in Czochralsky's crystal-growing method. Kristallografiia 5 no.5:759-762 S-0 '61.  
(MIRA 14:10)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut  
redkometallicheskoy promyshlennosti.  
(Hydrodynamics) (Crystals—Growth)

TUROVSKIY, B.M.; MIL'VIDSKIY, M.G.

Growth characteristics of crystals grown from an alloy by  
Czochralsky's method. Fiz. tver. tela 3 no.9:2519-2524 S '61.  
(MIRA 1'9)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektornyy  
institut redkometallicheskoy promyshlennosti, Moskva.  
(Crystals---Growth)

189500 141810432808 1160

20070  
S/181/61/003/009/002/039  
B102/B104

AUTHORS: Turovskiy, B. M., and Mil'vidskiy, M. G.

TITLE: Characteristics of the growth of crystals grown in a melt by Chokhral'skiy's method

PERIODICAL: Fizika tverdogo tela, v. 3, no. 9, 1961, 2519-2524

TEXT: Periodic macrostructural properties may be observed in crystals grown by Chokhral'skiy's method. They may look like single and multiple "screw threads" or like "growth stripes". These patterns are closely correlated as to their positions. To explain their formation, the authors started by assuming an asymmetrical temperature field in the melt, i. e., a cooler zone was considered to face the observation window. The linear dimensions of "screw threads" may then be determined by the velocity of rotation, the pulling rate, and the thermal asymmetry (magnitude of zones and of temperature gradients in them). This assumption was verified by experiments. While the assumption of an asymmetrical temperature field alone is sufficient to explain the formation of single "screw threads", it is not sufficient to explain that of multiple "screw threads" nor the

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<sup>28070</sup>  
S/181/61/003/009/002/039

Characteristics of the growth of crystals...B102/B104

periodic impurity distribution. An analysis of temperature field and impurity distribution in the melt and of the effect of rotation on both allowed the conclusion that the impurity distribution is determined not only by the asymmetry of the temperature field but also by the effect of a diffusion layer with increased impurity concentration. A formation of multiple "screw threads" may be explained by the specific effect of impurities in the diffusion layer upon the equilibrium temperature at which a melt of a different composition crystallizes. A crystal may be considered to grow from the melt in a continuous manner. Concentric rotational figures will then appear, and the crystal will derive a helical structure from them. The impurity concentration will differ from one spiral to another. These assumptions are backed by experimental results. There are 6 figures and 6 references: 2 Soviet and 4 non-Soviet. The three references to English-language publications read as follows: E. Billig. J. Inst. Metals, 83, 53-56, 1954-1955; W. C. Dash. Phys. Rev. 97, no. 2, 1955; W. Edwards, Canad. J. Phys. 38, 439, 1960.

Card 2/3

23070

S/181/61/003/009/002/039

Characteristics of the growth of crystals...B102/B104

X

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy  
institut redkometallicheskoy promyshlennosti Moskva (State  
Design and Planning Scientific Research Institute of the  
Rare Metals Industry, Moscow)

SUBMITTED: January 4, 1961

Card 3/3

TUROVSKIY, Boris Ivanovich; BARANOV, M.F., red.; NESMYSLOVA, L.M.,  
tekhn. red.

[The KKKh-3 corn-harvesting combine] Kukuruzoborochnyi  
kombain KKKh-3. Moskva, Proftekhizdat, 1963. 90 p.  
(MIRA 17:3)

TUROVSKIY, D.N.; KURULAPNIK, N.B.; BERSHADSKAYA, N.A.

Mechanization of glazing of facade facing tiles. Stek.i ker. 21  
no.12:24 D '64. (MIRA 18:3)

KVACHEVA, A.I.; KUZNETSOV, S.D.; TUROVSKIY, E.M.

Measuring the roughness of curvilinear surfaces. Izm. tekhn.  
no.8:23-24 Ag '63. (MIRA 16:10)

S/122/63/000/002/007/012  
D262/D308

AUTHORS: Turovskiy, E. M., Engineer, and Prasolov, P. F.,  
Engineer

TITLE: Initial elastic-plastic deformations at contact load-  
ing of plastic materials

PERIODICAL: Vestnik mashinostroyeniya, no. 2, 1963, 45-48

TEXT: In order to determine the effect of loading on residual de-  
formations, balls of 25.4 mm dia made of various plastic materials  
and located between two flat surfaces are subjected to various  
loads, deformations measured, and permissible loads calculated,  
taking into account the permissible residual deformations obtained  
from the tests. The empirical formulas for mean compression stress-  
ses for various plastics are given and their applications to balls  
of various sizes and for curved loading surfaces are explained.  
The application of the Hertz-Belyayev theory for calculation of  
mean compression stresses in plastic materials is discussed. There  
are 4 figures and 3 tables.

Card 1/1

ARONOV, D.M., kand. tekhn. nauk; TUROVSKIY, F.V., inzh.

Effect of the operating conditions of an engine on the hot  
surface ignition of the mixture. Ekspl.-tekhn. svoyis. i prim.  
avt. top. smaz. mat. i spetszhid. no.3:15-29 '63.

(MIRA 17:10)

OGANOV, K.A.; TUROVSKIY, G.I.

Empirical equations for the process of pyrolysis of ethane-  
propane hydrocarbons. Khim. prom. no.8:586-587 Ag '63.  
(MIRA 16:12)

OGANOV, K.A.; TUROVSKIY, G.I.; FRID, M.N.; FRID, Ye.B.

Pyrolysis of petroleum gases in an industrial tubestill. Azerb.  
khim. zhur. no.3:22-25 '65. (MIRA 19:1)

1. Nauchno-issledovatel'skiy i proyektnyy institut po kompleksnoy  
avtomatizatsii proizvodstvennykh protsessov v neftyanoy i khimi-  
cheskoy promyshlennosti.

ZUKINYKH, N.A., kand.tekhn.nauk; TUROVSKIY, I.S., mladshiy nauchnyy sotrudnik;  
Prinimali uchastiyu: LIPMAN, B.L., mladshiy nauchnyy sotrudnik;  
LUTSENKO, G.N., mladshiy nauchnyy sotrudnik; GANIKH, R.G., tekhn.red.

[Basic principles of the technical design of units for the mechanical  
dehydration of sewage residues on drum vacuum filters] Osnovnye printseipy  
tekhnologicheskogo rascheta ustrojstv po mekhanicheskomu obezvozhivaniyu  
osadkov stochnykh vod na barabannyykh vakuum-fil'trakh. Moskva, 1962.  
34 p. (Akademija kommunal'nogo khoziaistva. Informatsionne pis'mo, no.1)  
(MIIA 16:3)

(Sewage—Purification)

(Vacuum apparatus)

TUROVSKIY, I.Ya., kand.tekhn.nauk; ASKADSKIY, A.A., inzh.

Simplifying the calculations for the alignment of long railroad  
curves. Trudy MIIT no.147:107-111 '62. (MIRA 16:5)  
(Railroads--Curves and turnouts)

BARCHENKOV, A.G.; DEMKOV, Ye.A.; MAL'TSEV, R.I.; TUROVSKIY, L.M. (Voronezh)

Free vibrations of some frame-cantilever systems. Stroi. mekh.  
i rasch. soor. 4 no.6:44-49 '62. (MIRA 16:1)  
(Vibration)

BOROVSKAYA, Ye.M.; NARZIKULOV, M.N., doktor biol. nauk, glav. red.;  
TURSUNOVA, L.V., bibl. red.; KOTSABENKO, Ye.G., red. izd-va; GELLER, S.P., tekhn. red.

Pavel Nikolaevich Ovchinnikov. Vstup. stat'ia S.IU.Lipshitsa.  
Dushanbe, 1963. 81 p. (Materialy k bibliografii uchenykh  
Tadzhikistana, no.3) (MIRA 16:7)

1. Akademiya nauk Tadzhikskoy SSR. Dushanbe. TSentral'naya  
biblioteka. 2. Chlen-korrespondent AN Tadzh.SSR (for Narzikulov).  
(Ovchinnikov, Pavel Nikolaevich, 1903-)

CA

8

Molybdenite in the graphite deposit of Botogolsky.  
Golets, S. D. *Zapiski Vsesoyuz. Mineral. Obshchestva* (XIV-ye sov. russie mineral.) 77, 107-8(1948).—  
Molybdenite in thin-scaly crystals in paragenesis with  
microcline, greenish nepheline, yellow cancrinite, blue  
sodalite, biotite, and pyroxene in nepheline syenite peg-  
matite is found in wastes from the Marina Mine. The  
molybdenite is restricted to the immediate contacts of the  
cancrinite with feldspar or nepheline; less frequently it  
is observed in the central parts of cancrinite crystals.  
Only in one case, was it also found in contact between  
cancrinite and sodalite. The flakes are usually oriented  
perpendicular to the contact lines. Sometimes it is ac-  
companied by biotite forming an aureole around it.  
Molybdenite was confused with graphite by previous  
authors. Only qual. tests for Mo are given; the spectral  
analysis confirmed the strong Mo reaction; Fe, Ca, Ti,  
and W are found additionally. Mo is also observed in low  
concn., in the surroundings of the Botogolsk deposit.  
The pneumatolytic character of this molybdenite occur-  
rence is particularly significant, in its near genetic cor-  
relation, to nepheline-cancrinite pegmatites. W. Eitel

15-57-7-9360  
Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 7,  
pp 89-90 (USSR)

AUTHOR: Turovskiy, S. D.

TITLE: A Discovery of Native Tin in the Northern Kirgizskaya  
SSR (O nakhodke samorodnogo olova v Severnoy Kirgizii)

PERIODICAL: Tr. In-ta geol. AN KirgSSR, 1956, Nr 8, pp 125-129

ABSTRACT: Native tin has been identified in Variscan magmatic  
and post-magmatic rocks in the region of the Kastek  
Mountains. It is found in the post-magmatic group in  
all the outcrops examined. Tin is invariably present  
in alaskites. In the remaining igneous rocks (syenite  
and granite porphyry) tin is encountered only in  
those zones immediately next to the alaskites or next  
to post-magmatic tin-bearing occurrences. A mineral  
study of the heavy fraction in ore concentrates of  
quartz-lead-zinc deposits has shown that native tin

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15-57-7-9360

A Discovery of Native Tin (Cont.)

is found with cyrtolite, pyrite, galena, arsenopyrite, molybdenite, fluorite, calcite, ankerite, hematite, rutile, and other minerals. In "barren" quartz veins it is accompanied by these same minerals) (except rutile, hematite, molybdenite, and others). In these veins the following minerals are also widespread: sphalerite, chalcopyrite, native lead, barite, cassiterite, and anatase. Cyrtolite, pyrite, galena, sphalerite, chalcopyrite, arsenopyrite, molybdenite, fluorite, barite, anatase, and other minerals occur with the tin in igneous rocks. The tin forms tabular segregations up to 6 to 7 mm across. These tabular masses are irregular and tin white, with metallic luster. They are soft and easily scratched with a knife. They are slowly soluble in HCl, and the grains become coated with a brown incrustation. The chemical composition of the tin varies somewhat for the different formations of the northern Kirgizskaya SSR. The tin from the "barren" quartz veins, as contrasted to the tin from the igneous rocks, has a lower content of Ag and Mn. Ni, Mo, Ca, Al, Ti are absent. The concentration of As and Fe is some-  
Card 2/3

A Discovery of Native Tin (Cont.)

15-57-7-9360

what higher. The native tin in the igneous rocks is, in great part, apparently due to the effect of ore-bearing hydrothermal solutions on the rock.

Card 3/3

Ye. S. Kabanova

CP

Isotopic study of the mechanism of oxidation of carbon monoxide on manganese dioxide. F. M. Vatshatkin and G. Ya. Turovskii. Doklady Akad. Nauk S.S.R. 72, 207-9 (1950).—With 2 types of  $MnO_2$  contg.  $MnO_2^{18}$ , one prpd. by exchanging  $MnCl_2$  with  $H_2O^{18}$ , the other by oxidation of  $Mn(O^{16}H)_2$ , with  $Cl_2$ , both preps. dried at 160°, no  $O^{18}-O^{16}$  exchange was observed in a stream of air but there was some exchange in the catalytic oxidation of CO at 90-97°. However, exchange to about the same extent occurred on passing a mixt. of  $CO_2$  and air at the same temp. That, in both cases, the observed exchange was due solely to some  $H_2O$  retained by the catalyst, was demonstrated by drying at 850°; with such preps., no exchange was found either in passing  $CO_2 + air$  or in the catalytic oxidation of CO. Consequently, that oxidation does not proceed over an oxidation-reduction mechanism, and  $MnCl_2$  does not act as a donor of 1 atoms. With a gas mixt. contg. an excess of CO, and air strongly dried with  $N_2$ , catalytic oxidation was still intense;  $MnO_2$  was visibly reduced, but there still was no isotopic exchange. This proves that the reaction involves not merely a small fraction of the surface of the  $MnO_2$ , but its main mass, and that the failure to detect isotopic exchange is not simply due to the smallness of the units involved. The contrary finding of Karpacheva and Rosen (C.A. 44, 917) who did find intense  $O^{18}-O^{16}$  exchange between  $MnO_2$  and O<sub>2</sub> at 200°, and in the catalytic oxidation of CO on  $MnO_2$ , must have been due to insufficient removal of  $H_2O$  from the  $MnO_2$ . N. Thon

TUROVSKIY, G. Ya.

184T18

USSR/Chemistry - Oxidation Catalysts 21 Jun 51  
Isotopes

"Application of Heavy Oxygen for Investigation of the Mechanism of Oxidation Catalysis," G. Ya. TUROVSKIY, F. M. Vaynshteyn, Inst Phys Chem Imeni L. V. Pisarzhevskiy, Acad Sci Ukrainian SSR

"Dok Ak Nauk SSSR" Vol LXXVIII, No 6, pp 1173-1175

Just as previously established in the case of  $MnO_2$ , there is no exchange between oxygen of the oxide and oxygen of the air in catalytic oxidation of CO over  $CuO_{18}$ : no  $O_{18}$  is removed from the  $CuO_{18}$ . In absence of free  $O_2$ , however,  $CuO_{18}$  is reduced by CO. Catalytic oxidation cannot proceed by fixation

184T18

USSR/Chemistry - Oxidation Catalysts 21 Jun 51  
(Contd)

of  $O_{16}$  on limited number of areas of surface of catalyst, because as detd in expts described, oxygen is freely movable throughout the lattice. It is therefore certain there is no intermediate oxidation-reduction of catalyst.

184T18

TUROVSKIY, G. YA.

USSR/Chemistry

Card 1/1

Authors : Vaynshteyn, F. M., and Turovskiy, G. Ya.

Title : The role of an oxygen contact in the process of catalytic oxidation of CO

Periodical : Zhur. Fiz. Khim., 28, Ed. 3, 556-557, March 1954

Abstract : Experiments showed that thoroughly desiccated MnO<sub>2</sub> and CuO marked with heavy oxygen, at a temperature of 170° for manganese dioxide and 300°C for cupric oxide, do not exchange its oxygen into oxygen of the gaseous phase neither when passing air or carbon monoxide through the contact nor by carrying out the oxidation reaction of CO exceeding the CO content in it. Fresh contacts undergo partial reduction already at the first period of the catalysis (period of contact formation) and the reaction products pick up a greater or smaller amount of CO<sub>2</sub> together with the heavy oxygen of the contact.

Institution : Acad. of Sc. Ukr-SSR, The L. V. Pisarzhevskiy Institute of Physical Chemistry, Kiev.

Submitted : July 4, 1953

TUROVSKIY, G. Ya.

AUTHORS: Royter, V. A., Corresponding Member ~~AS~~ Ukrainian SSR, 67-5-3/12  
Turovskiy, G. Ya., Engineer.

TITLE: Catalytic Method for Purifying Air From Acetylene (Kataliticheskiy metod ochistki vozdukha ot atsetilena).

PERIODICAL: Kislorod, 1957, Nr 5, pp. 14-22 (USSR).

ABSTRACT: Although there is no uniform opinion on the explosion mechanism in air fractionating apparatus, it is known that obstructions of hydrocarbons capable of reaction, especially of acetylene, cause these reactions. The impurity of the air is not always caused by neighbouring acetylene producing or - consuming plants (production of carbide, synthesis of products on acetylene basis, etc.). Also the quenching of furnace slags, the molding of metals at humid air and other processes during which a systematic contact between carbides produced as side products and water or steam takes place, can cause such impurities. Acetylene can enter compressed air also together with other hydrocarbons capable of reaction, which are in formed consequence of a partial cracking of lubricating oil in the overheating during the compression process. For overcoming these phenomena the authors suggest a catalytic method which was worked out by the Institute for Physical Chemistry AN USSR in collaboration with the VNIIKIMASH (All-Union Scientific Research Institute of Oxygen Apparatus

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Catalytic Method for Purifying Air from Acetylene.

67-5-3/12

and Machinery). Summary: 1. - The protection measures for oxygen apparatus taken at present - remote air intake and acetylene adsorber - can not secure a completely riskless operation. 2. - A catalytic method for the purification of the air from acetylene additions by means of oxidation with atmospheric-oxygen to CO<sub>2</sub> and H<sub>2</sub>O was worked out. An effective and cheap catalyst of manganese-peroxide ore mixed with a small amount of silver was developed out. 3. - An important condition for the long life of a catalyst is the preliminary removal of drip oil and its vapors from the air to be purified. Its content must not be greater than its quantity at room temperature. 4. - A catalytic plant was designed, produced and tested. In this plant before passing the catalyst the oil is removed from the air by means of a filter with activated carbon at air temperature at the moment of its leaving the third stage of the compressor (125-130°C). This type of plant has a great capacity but it makes necessary a subsequent removal of CO<sub>2</sub>. 5. A catalytic plant for purification with recuperative heat exchange was designed, produced and tested. Its use made it possible to decrease the content of oil vapors without carbon filters and to reduce the consumption of energy for additional heating of the air. The experiments showed that at an air temperature of from 175-180°C (160-170°C in the mass of the catalyst) on the occasion of the entrance into the contact apparatus this plant offers a

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Catalytic Method for Purifying Air from Acetylene.

67-5-3/12

complete protection of the fractionating block against acetylene in every practically possible concentration. About 2/3 of the oil and of its distillates being in the air are oxidized to CO<sub>2</sub> and H<sub>2</sub>O. 6. -

Based on the experimental results industrial plants for a simultaneous catalytic purification of the air from acetylene and oil distillates were designed for oxygen aggregates with a capacity of 30 and 300m<sup>3</sup>/h of oxygen. The catalytic purification plant is mounted between the dry-ing block and the fractionating apparatus. 7. - The catalytic method of the purification of air can be recommended for oxygen plants of small and medium capacity. With great low-pressure air fractionating plants the introduction of this method requires its supplementary elab-oration in thermal respects and that taking into account the concrete possibilities of the individual enterprise.

There are 4 figures, 2 tables and 4 Slavic references.

ASSOCIATION: All-Union Scientific Research Institute of Oxygen Apparatus and Ma-chinery (VNIIKIMASH).

AVAILABLE: Library of Congress.

Card 3/3      1. Air-Purification-Catalytic-Processes

MARKULAK, Yu.K., Tselinograd, U.S.S.R.

Combined KPZh and KPZh-A pads for ironing presses.  
Shvein. prot. no.1:15-19 Ja-F '65. (MKP 12;4)

TUROVSKIY, I.B.

Cutting extracted benches in granite quarries. Transp. stroi. 12  
no.2:52 F '62. (MIRA 15:7)

1. Proizvoditel' rabot stroitel'nogo uchastka No.77 Transvzryvproma.  
(Granite industry) (Blasting)

SHNEYDER, V.Ye., kand. ekon. nauk, dots.; TUROVSKIY, I.G., prof.;  
ZAK, M.A., kand. ekon. nauk; BOGUSLAVSKIY, A.I., inzh.-  
ekon.; SANKISKIY, D.I., kandi. ekon. nauk, dots.;  
ASTANSKIY, L.Yu., kand. tekhn. nauk; GUSEV, S.G., inzh.-  
ekon.; GORSKOV, V.A., inzh.-ekon.[deceased]; IL'IN, S.I.,  
inzh.-ekon.; BALDIN, S.A., inzh.-ekon.; NAUMOVA, I.N., kand.  
ekon. nauk

[Economics, organization and planning for the building  
materials industry] Ekonomika, organizatsiya i planirovanie  
promyshlennosti stroitel'nykh materialov. Moskva, Stroi-  
izdat, 1965. 425 p. (MIRA 18:10)

LUKINYKH, N.A.; LIPMAN, B.L.; TUROVSKIY, I.S.

Specific resistance of sewage sludge and a method of determining  
it. Sbor. nauch. rab. AKKH no.6:217-229 '61. (MIRA 15:3)  
(Sewage—Purification)

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757610007-7

TUROVSKIY, I.S.

Mechanical dehydration of the waste water sludge. Nauch. trudy  
AKKH no.20:55-66 '63. (MIRA 18:12)

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757610007-7"

TUROVSKIY, I.S.

Dehydration of sewage sediments on vacuum filters. Sbor. nauch.  
rab. AKKH no.6:199-216 '61. (MIRA 15:3)  
(Vacuum apparatus) (Sewage--Purification)

TUROVSKIY, I.S., inzh.

Use of a standard technological design of filters for difficulty  
filtering sludge suspensions. Khim.mash. no.2:17-20 Mr 62.  
(MIRA 15:3)

(Filters and filtration)

TUROVSKIY, I.S., kand.tekhn.nauk

Structural and operational characteristics of vacuum-filtration equipment for dehydrating the sludge of waste water. Nov. tekhn. zhil.-kom.khoz.: Vod. i kan. no.2:84-'1 '63. (MIRA 17:9)

TUROVSKIY, I.Ya., kand.tekhn.nauk

Methods for the measurement of curves. Put' i put.khcz. 9  
no.8:26-28 '65.

(MIRA 18:8)

TUROVSKIY, I.Ya., kand.tekhn.nauk; ASKADSKIY, A.A., inzh.

Using the T4 instrument in planning the relocation of railroad  
lines. Transp. stroi. 11 no.1:45-46 Ja '61. (MIRA 14:1)  
(Railroads—Curves and turnouts)

TUROVSKIY, I.Ya., kand.tekhn.nauk

Mechanized track alignment. Put' i put.khoz. 4 no.4;  
18-20 Ap '60. (MIRA 13:?)  
(Railroads--Equipment and supplies)  
(Railroads--Track)

TUROVSKIY, I.Ya., kand. tekhn. nauk, dots.

Efficient methods for determining displacements in straightening out  
curves. Trudy MIIT no.94:117-137 '57. (MIRA 11:5)  
(Railroads—Curves and turnouts)

*Turovskiy I. Ya.*

MARKOVSKIY, Ye.A.; STETSENKO, V.I.; YAROPOLOV, I.N.; YARENCHUK, V.V.; TUROVSKIY,  
I.Ya.; DROBYAZKO, T.T.

Short reports. Zav.lab. 2<sup>4</sup> no.4:503-504 '58. (MIRA 11:4)

1. Institut mashinovedeniya i sel'skokhozyaystvennoy mekhaniki Akademii nauk USSR (for Markovskiy and Stetsenko). 2. Zavod sel'skokhozyaystvennogo moshinostroyeniya, g. Stalino (for Yaropolov). 3. Moskovskiy institut inzhenerov zheleznodorozhnogo transnorta (for Turovskiy).  
(Testing machines)

TUROVSKIY, I.Ya., kandidat tekhnicheskikh nauk.

Straighten curves correctly. Rul' i put. knoz. no. 2: 36-37 Ag '57.  
(MLRA 10:9)  
(Railroads--Curves and turnouts)

TUROVSKIY I.Y., inzhener.

Calculating and straightening curves. Put.i put.khoz. no.4:41-43  
Ap '57. (MLRA 10:5)  
(Railroads--Curves and turnouts)

TUROVSKIY, Il'ya Yakovlevich; SENGFEVA, A.I., red.

[Calculating the straightening of railroad curves] Ras-  
chet vypravki zheleznykh dorozhnykh krivykh. Moskva, Izd-  
vo "Transport," 1964. 107 p. (MIRA 17:5)

TUROVSKIY, L.M., inzh. (Voronezh)

Determining the frequencies of natural vibrations of regular  
trestle frames subjected to distributed loading. Issl.po teor.  
sooruzh. no.11:89-103 '62. (MIRA 15:8)  
(Structural frames--Vibration)

TUROVSKIY, L.M., inzh. (Voronezh)

Determining the frequency of natural vibrations in regular continuous beams with distributed loading. Issl. po teor. sooruzh. no.10:10-22  
'61.

(MIRA 14:8)

(Beams and girders, Continuous--Vibration)

TUROVSKIY, L.M., inzh. (Voronezh)

Free vibrations of regular multistory frames. Issl. po teor.  
scoruzh. no.12:65-79 '63. (MIRA 16:6)

(Structural frames—Vibration)

TROVSKY, M.

Social Sciences

U podnozh'ia Palt-gory. (At the foot of Palat-gora). Iz opyta raboty kluba v Izobil'noe.  
Krymizdat, 1951?

9. Monthly List of Russian Accessions, Library of Congress, SEPTEMBER 1952 ~~1950~~, Uncl.

ACC NR: AN7013716

SOURCE CODE: UR/9003/66/000/041/0004/0004

AUTHOR: Turovskiy, M. (Sevastopol'); Tsikora, S. (Sevastopol')

ORG: none

TITLE: Automatic bathyscaphe

SOURCE: Izvestiya, no. 41, 18 Feb 66, p. 4, cols. 5-7

TOPIC TAGS: oceanographic research facility, oceanographic instrument, electronic measurement, computer application, oceanographic personnel, computer programming, computer storage device

SUB CODE: 08,09

ABSTRACT:

The Marine Hydrophysics Institute of the Academy of Sciences Ukrainian SSR has developed a deep-water automatic instrument whose configuration resembles that of a single-stage rocket. It can be submerged to a depth of 12,000 m and returns data on the physical processes transpiring in all layers to the very bottom. This autonomous abyssal turbulence meter has electronic measurement devices and memory units, a current source and automatic balancing devices.

Card 1/2

0933 2185

ACC NR: AN7013716

A half-ton plate is attached to serve as a weight; the instruments react to commands from a programming unit which is built into the apparatus. When the program of measurements is completed a special signal causes detachment of the half-ton weight and the apparatus floats to the surface. Upon reaching the surface a buoy is released to mark its position; this buoy has a transmitter which sends out special call letters facilitating recovery of the apparatus. The collected data are analyzed by computer. The apparatus was designed by Arkadiy Georgiyevich Kolesnikov, Corresponding Member of the Academy of Sciences UkrSSR, initially while head of the Department of Marine Physics at Moscow State University and later at the Marine Hydrophysics Institute. [JPRS: 34,593]

Card 2/2

BALTER, M.A., kand.tekhn.nauk; TUROVSKIY, M.L., inzh.; IL'ICHEV, V.Ya., inzh.

Effect of the hardness of material and ball burnishing on  
the sensitivity to stress concentration. Vest.mash. 4<sup>o</sup>  
no.3:42-45 Mr '62. (MIRA 15:3)

(Strains and stresses)

## PHASE I, BOOK EXPLOITATION

Sov/5053  
Vsesoyuznaya konferentsiya po treniyu i iznosu v mashinakh. 3d.

Iznos i iznosostoykost'. Antifrictionnye materialy (Wear and Wear Resistance; Antifriction Materials). Moscow, Izd-vo AN SSSR, 1960, 273 p. Errata slip inserted. 3,500 copies printed.  
(Series: Its: Trudy, v. 1)

Sponsoring Agency: Akademika Nauk SSSR. Institut mashinovedeniya.  
Rep. Ed.: N. M. Khrushchov, Professor; Eds. of Publishing House: N. Ya. Klebanov, and S. L. Oryuk; Tech. Ed.: T. V. Polyakova.

PURPOSE: This collection of articles is intended for practicing engineers and research scientists.

COVERAGE: The collection published by the Institut mashinovedeniya, AN SSSR (Institute of Science of Machines, Academy of Sciences, USSR) contains papers presented at the III Vsesoyuznaya konferentsiya po treniyu i iznosu v mashinakh (Third All-Union Conference on Friction and Wear in Machines) which was held April 9-15, 1958. Problems discussed were in 5 main areas:  
1) Hydrodynamic Theory of Lubrication and Friction Bearings (Chairman: Ye. M. Gut'yar, Doctor of Technical Sciences, and A. K. Dyachkov, Doctor of Technical Sciences); Lubrication and Lubricating Materials (Chairman: G. V. Vinogradov, Doctor of Chemical Sciences); 3) Dry and Boundary Friction (Chairman: N. V. Dertyshev, Corresponding Member of the Academy of Sciences, USSR, and I. V. Kravtsovskiy, Doctor of Technical Sciences); 4) Wear and Wear Resistance (Chairman: M. M. Krushchov, Doctor of Technical Sciences); and 5) Friction and Anti-friction Materials (Chairman: I. V. Kravtsovskiy, Doctor of Technical Sciences, and M. M. Krushchov, Doctor of Technical Sciences). Chairman of the general assembly (on the first and last day of the conference) was Academician A. A. Blagonravov. L. Yu. Przhesskiy, Candidate of Technical Sciences, was scientific secretary. The transactions of the conference were published in 3 volumes, of which the present volume is the first. This volume contains articles concerning the wear and wear resistance of anti-friction materials. Among the topics covered are: modern developments in the theory and experimental science of wear resistance of materials; specific data on the wear resistance of various combinations of materials; methods for increasing the wear resistance of certain materials; the effects of friction and wear on the structure of materials; the mechanism of the seizing of metals; the effect of various types of lubricating materials on seizing, abrasive wear of a wide variety of materials and components under many different conditions; modern developments in anti-friction materials; and the effects of finish machining on wear resistance. Many possibilities are mentioned in the text. References accompany most of the articles.

Gorb, M. L. X-Ray Investigation of the Structure of Steel Deformed by Nonuniform Volumetric Compression at Normal and Elevated Temperatures 128  
Ishchel's, P. Ya. and N. I. Starkov, On the Structure and Structural Transformations in Steel Due to Wear 136  
Motrova, E. F. Gripping of Metals Under Ordinary Conditions and the Action of Normal Loads 144  
Kostaitis, E. I., P. K. Potapov, and I. G. Kosovskiy, Secondary Structures on Friction Surfaces, and the Wear of Metals 152  
Lubarski, T. M., N. P. Zanlyzh, D. S. Vostoboynikov, D. P. Podgoretskaya, and N. A. Turinskaya, Dynamics of Structural Transformations in the Case of Wear 163

card 7/13

10

LYUBARSKIY, I.M.; TUROVSKIY, M.L.

Using a method of cut out craters for the measurement of the local wear of rolls Zav.lab. 29 no.8:986-988 '63. (MIRA 16:9)

1. Zavod transportnogo mashinostroyeniya imeni V.A.Malysheva.  
(Roller bearings—Testing)

BALTER, M.A., kand.tekhn.nauk; GUREVICH, B.G., kand.tekhn.nauk;  
TUROVSKIY, M.L., inzh.

Stability of the effect of surface hardening under the action of  
static overloads. Vest.mashinostr. 44 no.3:21-26 Mr '64.  
(MIRA 17:4)

ACCESSION NR: AP4026214

S/0122/64/000/003/0021/0026

AUTHORS: Balter, M. A. (Candidate of technical sciences); Gurevich, B. O. (Candidate of technical sciences); Turovskiy, M. L. (Engineer)

TITLE: Duration of the strengthening effect of surface hardening under static overloads

SOURCE: Vestnik mashinostroyeniya, no. 3, 1964, 21-26

TOPIC TAGS: fatigue strength, surface hardening, cold rolling, static overload; steel 30KhGSA

ABSTRACT: The effects of static overloads on the fatigue strength of surface hardened samples were investigated experimentally using tubes 450 mm long, 30 mm diameter, and 8 mm thick, made of 30KhGSA steel heat-treated to HRC 32-34, 38-46 and 46-52. After obtaining fatigue curves for these hardnesses, similar samples were cold-rolled in a hydraulic three-roll device with a roll profile radius of 5 mm with a rolling force of 1000 kg (for HRC 38-52) and 800 kg (HRC 32-34). It was found that for static preloading in the same direction as the cyclic loads, static overloads did not affect the fatigue strength of the low-hardness steels. For the harder steels a static load of  $\sigma_{el}$  (elastic limit) prior to fatigue tests

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ACCESSION NR: AP4026244

increased the fatigue strength, while a preload of  $\approx 1.4 \sigma_{el}$  decreased the fatigue strength by  $\approx 29\%$  (based on  $10^6$  cycles). Static preloads in the opposite direction to the fatigue loading always decreased the fatigue strength. At a preload of  $0.9 \sigma_{el}$  the fatigue strength of cold-rolled samples was even lower than the fatigue strength of untreated samples. Orig. art. has: 6 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 20Apr64

ENCL: 00

SUB CODE: MM

NO REF Sov: 005

OTHER: 001

Card 2/2

L 2573-66 EWT(m)/EWP(w)/EPF(c)/T/EWP(t)/EWP(k)/EWP(b)/EWA(c) JD/HW/DJ/GS  
ACCESSION NR: AT5022671 UR/0000/65/000/000/0133/0137

AUTHORS: Lyubaraskiy, I. M.; Podgornaya, O. F.; Lyubchenko, A. P.; Voskoboinikov,  
D. B.; Turovskiy, M. L.

TITLE: The structural mechanism of wear (on the question of the fatigue nature of  
wear)

SOURCE: AN SSSR. Nauchnyy sovet po treniyu i smazkam. Teoriya treniya i iznosa  
(Theory of friction and wear). Moscow, Izd-vo Nauka, 1965, 133-137

TOPIC TAGS: friction, wear, friction wear, surface wear, surface fatigue

ABSTRACT: As an extension of his earlier formulation of the three-stage process of  
friction wear, I. V. Kragel'skiy has proposed a mechanism of fatigue type of wear.  
Based on structural and property investigations of individual microvolumes in the  
active friction layers, the nonuniformity of structure and material properties of  
separate microvolumes has been established. It can be assumed that the friction of  
rough surfaces is a statistical combination of simultaneous processes of brittle  
fracture and plastic deformation of microirregularities. The relative importance of  
the two processes is determined by the different effects of thermal and surface  
treatments and of friction on the  $\alpha$  and  $\gamma$ -phases and their substructures. Under  
heavy friction conditions, processes of cold hardening of the  $\gamma$ -phase and

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L 2573-66

ACCESSION NR: AT5022671

3

weakening of the  $\alpha$ -phase (separation of carbide phase, etc) occur. The most wear-resistant conditions for a homogeneous  $\alpha$ - $\gamma$  alloy are met when the  $\gamma$ -phase is not "cold hardened," while the  $\alpha$ -phase is "cold hardened." The wear rate (ml/cycle) histories of many experiments performed under gear tooth friction conditions indicate the cyclic nature of the wear rate. Microhardness histories during the experiments showed a comparatively high initial austenite hardness, which increased with time, until it and the friction torque suddenly decreased. Thus wear occurs when individual microvolumes of the surface loose their plasticity due to cold working and are worn away, exposing new surface which repeats the cycle. Orig. art. has: 4 figures.

ASSOCIATION: Nauchnyy sovet po treniyu i smazkam, AN SSSR (Scientific Committee on Friction and Lubrication, AN SSSR)

SUBMITTED: 18May65

ENCL: 00

SJB CODE: ME

NO REF Sov: 000

OTHER: 000

Card 292

TUROVSKIY, M. L.

"On Investigation of Internal Stresses at the Khar'kovskiy Zavod Transportnogo Mashinostroyeniya [Khar'kov Plant of Transport Machines]"

report presented at Scientific-Technical Session on Progressive Technology of Casting Molds, organized by the NTOMASHPROM of the Khar'kov Oblast', in Khar'kov, 14-16 Nov 1957.

Liteynoye Proizvodstvo, 1958, No. 4, pp. 28-30.

S/122/62/000/003/003/007  
D262/D302

AUTHORS: Balter, M.A., Candidate of Technical Sciences,  
Turovskiy, M.L., and Il'ichev, V.Ya., Engineers

TITLE: The effect of material hardness and roller polishing  
on sensitivity to stress concentrations

PERIODICAL: Vestnik mashinostroyeniya, no. 3, 1962, 42 - 45

TEXT: A series of experiments designed to establish the effect of material hardness and roller polishing on sensitivity to stress concentrations is described in detail. Results are recorded in form of graphs and analyzed. Specimens made of steel 38ХС (38KhS) of various hardnesses were subjected to fatigue resistance tests by bending and the following general conclusions reached. With the increase in hardness, fatigue resistance drops and sensitivity to stress concentrations increases. Roller polishing considerably decreases sensitivity to stress concentrations. The experiments show that the use of high tensile steels for machine components working under a cyclic load is not always expedient. Two practical cases are mentioned where the life of working parts was increased by roller polish- ✓

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The effect of material hardness ...

S/122/62/000/003/C03/C07  
D262/D302

ing, retaining the original, comparatively low hardness of the metal. There are 7 figures and 12 Soviet-bloc references.

Card 2/2

L 10367-66 EWP(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c)  
ACC NR: AT6000060 MJW/JD/HW/EM/GS SOURCE CODE: UR/0000/65/000/000/0039/0016  
*28*

AUTHORS: Balter, M. A.; Turovskiy, M. L.  
*44,55* *yy,55*

*53*  
*QF1*

ORG: none

TITLE: Influence of surface hardening on the sensitivity to stress concentration  
in connection with the static strength of a material *14*

SOURCE: Soveshchaniye po uprochneniyu detaley mashin. Moscow, 1962. Uprochneniye  
detaley mashin mekhanicheskim naklepyvaniyem (Strengthening of machine parts by  
mechanical riveting); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1965, 39-46

TOPIC TAGS: steel, steel microstructure, alloy steel, metal aging, metal property/  
37KhS steel, 18KhNVA steel, 45 KhNMFA steel, 20Kh2N4A steel, 30KhGSA steel, 30Kh1SA  
steel *10* *18* *10*

ABSTRACT: The effect of surface hardening of steels on their sensitivity to stress  
concentrations as a function of their static strength was investigated. Surface  
hardening was produced by rolling the cylindrical surface of the specimen by means  
of a roller with 0.8-mm radius at the roller load of 100 kg. The experimental  
*b, 44,55*

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L 10367-66

ACC NR: AT6000060

results are presented graphically (see Fig. 1). It was found that for a theore-

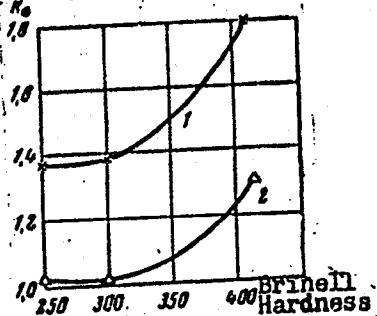


Fig. 1. Dependence of the effective coefficient of stress concentration on the hardness.  
1 - without rolling; 2 - after rolling.

ical stress concentration  $\alpha/\sigma = 1.86$  an increase of surface hardening from 255 to 415 Brinell Hardness increases the coefficient of sensitivity towards stress concentration  $q$  from 0.43 to 0.94, and the effective concentration coefficient  $k_0$  from 1.38 to 1.6. It was also found that surface rolling leads to a considerable decrease in the sensitivity toward stress concentrations (see Fig. 2). The above results were confirmed by a number of fatigue experiments on various types of steels. The experimental procedure followed that described by S. V. Serensen,

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ACC NR: AT6000060

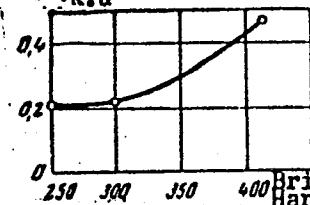
 ~~$\sigma_1 = \sigma_{-1} k$~~  ~~$\sigma_{-1} k.u$~~ 

Fig. 2. Influence of rolling on the change in sensitivity towards stress concentration as a function of hardness. Where  $\sigma_1$  - 1 g/ $\text{mm}^2$ ,  $\sigma_{-1}$  - 1 k, and  $\sigma_{-1} k.u$  are the fatigue limits of smooth specimens, specimens with stress concentration, and specimens with stress concentration after strengthening, respectively.

M. E. Garf, and P. A. Kozlov (Mashiny dlya ispytaniy na ustalost'. M., Mashgiz, 1957). The effect of surface rolling on the longevity of steels with hard surfaces was studied on pipe specimens of 30KhGSA steel. It was found that unreinforced specimens with the surface subjected to rolling under high loads had a longer life than reinforced specimens. X-ray studies of specimens subjected to high rolling loads showed that the crystal lattice of these specimens became distorted as a result of rolling. The depth of the cold-worked layer increased rapidly when the rolling load was increased from 450 to 800 kg. It was found that, at all applied loads, the magnitude of internal residual stresses of the first kind was considerably greater for improved steels as compared with normalized steels. The staff of the Khar'kov Polytechnical Institute took part in the fatigue experiments. The

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I. 10367-66

ACC NR: AT6000060

x-ray measurements and investigation of the residual stresses of the first kind  
were carried out by the engineers Z. A. Zadneprovskaya and D. B. Voskoboinikov.  
Orig. art. has: 9 graphs.

SUB CODE: 11/ SUBM DATE: 24Apr65/ ORIG REF: 009/ OTH REF: 001/ SOV REF: 009

PC  
Card 4/4

L 3332-66 EWT(n)/T/EWP(w)/EWP(t)/ETI JP(c) DJ/DN JNT(CZ)  
ACC NR: AP6010085 (A)

SOURCE CODE: UR/0129/66/000/003/0002/0006

49

AUTHOR: Balter, M. A.; Turovskiy, M. L.

47

B

ORG: Khar'kov Transport Machine Building Plant (Khar'kovskiy Zavod Transportnogo Mashinostroyeniya)

TITLE: Contact strength of case-hardened steel

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 3, 1966, 2-6

TOPIC TAGS: alloy steel, case hardening, fatigue strength, austenite, metal friction / 18Kh2N4VA alloy steel, 20Kh2N4VA alloy steel

ABSTRACT: The contact-fatigue strength of case-hardened 18Kh2N4VA alloy steel was investigated in a four-roller machine with roller surfaces simulating the friction that accompanies the operating conditions of gear-wheel teeth. The depth of the case-hardened layer was 1.7-1.9 mm. Specimens of this steel were subjected to three different regimes of heat treatment: 1) oil quenching from 850°C, tempering at 140°C ( $H_{RC}$  54); 2) high-temperature tempering at 650°C, oil quenching from 800°C, tempering at 140°C ( $H_{RC}$  59); 3) oil quenching from 800°C, sub-zero treatment at -120°C, tempering at -140°C ( $H_{RC}$  63). Contrary to the widespread opinion that contact strength is a function of the hardness of material, the findings showed that the contact

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UDC: 620.178.154.3:621.78.5

L 33382-66

ACC NR: AP6010085

strength of this steel depends not so much on hardness as on the microstructure of the case-hardened layer which, depending on the regime of heat treatment, differs in the amount and pattern of distribution of its residual austenite and carbides, as established by radiographic and structural examination. Thus, sub-zero treatment (regime 3) which makes the steel much harder compared with heat-treatment regimes 1 and 2, does not enhance its contact-fatigue strength. For an austenite-rich structure (regime 1) hardness increases in the course of friction as opposed to martensite-rich structures (regimes 2 and 3). Considering that during friction between gear teeth/ residual tensile stresses facilitate shear whereas the compressive stresses present at the tooth addendum impede shear, specimens of 20Kh2N4A case-hardened steel were tested for contact-fatigue strength as a function of the type of surface treatment (polishing, shot peening, electropolishing, roller burnishing); best results were achieved by roller burnishing -- the attendant marked increase in contact strength is due to the favorable residual compressive stresses in a combination with a high degree of surface smoothness. Orig. art. has: 4 figures

SUB CODE: 11, 13/ SUBM DATE: none/ ORIG REF: 005

\*[This topic tag designation does not appear in  
the original.]

Card 2/2 JS

TUROVSKIY, M. N., inzh.

Complect large-unit panels of control sections. Vest. elektroprom.  
31 no.5:76-78 My '60. (MIREA 13:8)  
(Electric switchgear) (Electric power plants)

KOGAN, Bronislava L'vovna; SOMINSKIY, Vladimir Samuilovich; TUROVSKIY, P.B.,  
red.; SHITS, V.P., tekhn. red.

[Means of increasing labor productivity in the woodpulp and paper  
industries] Puti povyshenija proizvoditel'nosti truda v tselliuloz-  
no-bumazhnoj promyshlennosti. Moskva, Goslesbumizdat, 1957. 54 p.  
(Woodpulp industry) (Paper industry) (MIRA 11:9)

SINITSYN, Mikhail Pavlovich; TUROVSKIY, P.B., red.; ARNOL'DOVA, K.S.,  
red.izd-va; BACHURINA, A.M., tekhn.red.

[Profitableness of sulfate pulp enterprises and ways for  
increasing it] Rentabel'nost' sul'fatselliuloznykh  
predpriatii i puti ee povysheniia. Moskva, Goslesbum-  
izdat, 1959. 81 p. (MIRA 12:8)  
(Woodpulp industry)

KOPERIN, Vladislav Vladimirovich; YUSHKOV, Nikolay Ivanovich; NAUMOV, Vasiliy Grigor'yevich; TUROVSKIY, Petr Borisovich; Prinimal . . . uchastiye FEL'DMAN, A.K., inzh. KORELIN, D.S., red.; MIKHAYLOVA, L.G., red.izd-va; PARAKHINA, N.L., tekhn.red.

[Manual on the assembly of technological equipment in the enterprises of the pulp and paper industry] Spravochnik po montazhu tehnologicheskogo oborudovaniia predpriiatii tselliulcznobumazhnoi promyshlennosti. Moskva, Goslesbumizdat, 1960. 259 p. (MIRA 14:4)

1. Trest Soyuzprombummontazh (for Fel'dman).  
(Paper industry--Equipment and supplies)

YUSHKOV, Nikolay Ivanovich; NAUMOV, Vasiliy Grigor'yevich; TUROVSKIY,  
Petr Borisovich; ZHUDRO, S.G., red.; YEPISHKINA, A.V., red.  
izd-va; SHIBKOVA, R.S., tekhn. red.

[Assembly and installation of technological equipment in  
enterprises of the woodpulp and paper industry] Montazh tekhnologicheskogo  
oborudovaniia predpriatii tselliulozno-bumazhnoi promyshlennosti. Moskva, Goslesbumizdat, 1962. 319 p.  
(MIRA 16:2)

(Woodpulp industry—Equipment and supplies)

KOPEKIN, Vladislav Vladimirovich; YUSHKOV, Nikolay Ivanovich;  
NAUMOV, Vasiliiy Grigor'yevich; TUROVSKIY, Petr Borisovich  
[deceased]; KORELIN, D.S., red.

[Handbook on the assembly and installation of the technological equipment in enterprises of the woodpulp and paper industry] Spravochnik po montazhu tekhnologicheskogo oborudovaniia predpriiatii tselliulozno-bumazhnoi promyshlennosti. Izd.2., perer. i dop. Moskva, Lesnaia promyshlennost', 1964. 758 p. (MIRA 17:9)

TUROVSKIY, P.T., inzh.

Economy of transit lumber transportation in the Volga-Kama  
basin. Trudy LIVT no.3:46-52 '60. (MIRA 15:3)  
(Volga Valley--Lumber--Transportation)  
(Kama Valley--Lumber--Transportation)

TUROVSKIY, P.T., inzh.

Effect of the lumber load composition by types on methods of its  
transportation by the Kama-Volga waterway. Trudy LIIVT. Vop. ekon.  
i org. vod. transp. no.2:66-76 '59. (MIRA 13:11)  
(Lumber--Transportation)  
(Inland water transportation)

TUROVSKIY, S.D.; MAKAROV, V.A.; NOSIREV, I.V.

Find of ore pebbles in Lower Carboniferous conglomerates  
of the Boordu region (northern Tien Shan). Dokl. AN SSSR  
147 no.1:210-211 N '62. (MIRA 15:11)

1. Institut geologii AN Kirgizskoy SSR. Predstavлено  
академиком D.S. Korzhinskim.  
(Boordu region---Ore deposits)

KOROLEV, V.G.; NOSYREV, I.V.; TUROVSKIY, S.D.

Paleozoic intrusive complexes in the northern Tien Shan. Mat.po  
geol.Tian'-Shania no.2:5-19 '62. (MIRA 15:11)  
(Tien Shan--Rocks, Igneous)

PA 1/49T89

TUROVSKIY, S. D.

USSR/Minerals

Jan/Feb/Mar 48

Graphite  
Molybdenum

"Molybdenite in the Botogol'sk Deposits of  
Graphite," S. D. Turovskiy, 1 p

"Zapiski V-S Mineral Obshch" Vol LXXVII, No 1

Describes finding of molybdenum, and nature of  
mineral found in subject deposits.

1/49T89

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757610007-7

Mineral  
content and  
characteristics of the genetic  
suite

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757610007-7"

3(5)

30V/11-59-6-6/15

AUTHOR:

Turovskiy, S.D.

TITLE:

The Correlation Between the Age of Eruptive Rock  
Dikes of the Post-Magmatic Mineralization in the De-  
posits of Northern Kirghiz SSR

PERIODICAL:

Izvestiya Akademii nauk SSSR, Seriya Geologicheskaya,  
1959, Nr 6, pp. 84-98 (USSR)

ABSTRACT:

The author discusses the correlation between the age of eruptive rock dikes and of the post-magmatic mineralization. Many geologists (V.M. Kreyter, A.V. Pek, F.I. Vol'fson, L.I. Lukin, A.V. Korolyov, V.E. Poyarkov, the author, etc.) think that all dikes, independent of their composition and of the time of their separation from the initial hearth, produced by one given magmatic phase are always formed previous to the mineralization process in relation to the post-magmatic, and especially hydrothermal mineralization originated from the same initial hearth. Other geologists (Kh.M. Abdullayev, Ye.A. Radkevich, F.K.

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Shipulin, M.A. Favorskaya, V.N. Kotlyar, etc.) think that each magmatic phase includes dikes formed previous to, during the course of, and subsequent to the mineralization process. The study of mineral deposits of Northern Kirghiz SSR permitted the author to prove the correctness of the first view. These deposits have been formed in three separate magmatic phases. The first phase is conditionally associated with the Devonian period and granite resulting from the differentiation process of the ore-bearing element. The second magmatic phase is conditionally associated with the Carboniferous period, and the third - with the Upper-Permian period. Ore bearing elements of the third phase were first alaskite and then alkali. The Granitnaya Gorka lead ore deposit belongs to the first Devonian metallogenic phase. Numerous andesite-porphyrite dikes in these deposits were obviously formed previous to the mineralization process, because they are intersected by

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thin veins filled with ore. The same can be said about the dikes in the Ak-Tash-Koro, Taldy-Bulak, and many other deposits of the region. The earlier formation of dikes found in the Aksu Group deposits is also obvious, with an exception made for lamprophyre dikes, which are considered by some geologists as having been formed after the ore formation process. Detailed study by I.K. Davletov of these dikes permitted to fix their occurrence before the mineralization process. According to him, one of the proofs of their earlier origin is that the primary accessory minerals - pyrite, apatite and zircon - contained in the lamprophyres were exposed to the dissolving action of some reagent which could only be the ore-bearing solutions. The Ak-Tyuz and Kutes-Say polymetallic deposits were formed during the last Upper-Permian metallogenic phase and associated with the alaskite magmatic hearth. Dikes were composed of granophyres, aplites and of different porphyrites.

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As in previous cases, detailed microscopic study permitted to find traces of dissolving action of the ore-bearing solution on primary accessory minerals of porphyrites, zircon, apatite, anatase, magnetite and pyrites. Numerous dikes of the Boordu polymetallic deposit of the Devonian metallogenic phase are partly beresitized and mineralized by the ore-bearing solution so that their earlier origin is also obvious. The syenite-diorite dikes, also occurring in this deposit, are classified by the author as belonging to another, much younger Upper-Permian metallogenic phase because they are completely different from other dikes and have many common features with the syenites and granosyenites of the Upper-Permian period, widely spread in the adjacent region. The polymetallic and rare metal ore deposits of Kurgan were formed in two different metallogenic phases of magmatic processes: the polymetallic ores were formed during the Devonian phase of penetration of the granite ore-bearing magma,

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and the rare metal ores during the Upper-Permian phase of penetration of the alkaline ore-bearing magma. The earlier formation of the diabase-porphyrite is again obvious - they were formed previous to the mineralization process in the Devonian metalligenic phase. Dikes of the Upper-Permian rare metal ore deposits formed of aegiritic syenites and syenite aplites were mostly submitted to the action of the alkaline ore-bearing solution and partly transformed by them, thus proving that their occurrence is previous to the occurrence of ore deposits. The author concludes by saying that the correlation between the age of dikes composed of basic porphyrite rocks and of the post-magmatic mineralization is more difficult to determine because the chemical inertia, plasticity and toughness of porphyrites make them resistant to the action of different ore-bearing reagents and to the tectonic movements of the enclosing bodies. The author recommends different methods for determining

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the correlation between the ages of dike rocks and ore-forming processes. There are 2 tables and 19 Soviet references.

ASSOCIATION: Institut geologii AN KirgSSR (The Institute of Geology of the AS of the Kirghiz SSR), Frunze

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